

Message

From: Walker, Stuart [Walker.Stuart@epa.gov]
Sent: 5/8/2020 8:14:35 PM
To: Stralka, Daniel [Stralka.Daniel@epa.gov]
Subject: RE: BPRG calculator

Although we don't have a chem building model, like we have with RSL, for dust and air BPRG is as close as can be to the World Trade Center benchmark document. Fred and I worked with the 3 EPA folks that were leads on that effort when we did the BPRG and have just updated since then based on EFH changes. So I think the onus is on DOE to change RESRAD on dust and air.

However, the analysis the ACE is doing for us at HPNS has convinced me we should add some more flexibility to BPRG on 3D/fixed scenario. One of the senior scientists was supposed to start work on some additional MCNP (Monte Carlo Nuclear Particle, a sophisticated model for gamma fields) runs that we would use to allow more choices for what walls/ceilings/floor are contaminated and which are clean in the same room.

The ACE analysis did remind me that RESRAD uses a groundplane external dose conversion factor for fixed surface contamination and dust, but for risk they use the soil volumetric slope factor and a funky conversion factor for each isotope. BPRG and BDCC both use ground plane for risk and dose. So the RESRAD risk values for fixed surface contamination and the external portion of dust (which is mostly useless since ingestion drives) really are pretty far off even from their own dose approach.

RESRAD Build has gone through 2 external verification (note that both predate when they added risk to the model, also the User Guide predates when they added risk, it used to be a dose assessment only calculator). None of the RESRAD tools have undergone external peer review.

BPRG has had one independent external peer review and one external verification. BDCC has one external verification. They both have non independent external peer reviews (when I pay the ACE under an IAG to review some aspect)

I will also send you an email that lays out how each model has been reviewed. Some of the DOE people had gone to conferences attacking the PRG calculator saying how we never peer reviewed our tools. I think they thought being an IAEA comparison study was the same as peer review. I put together an email that lays out the reviews for each tool (DOE and EPA) and sent it to some of the DOE HQ. I updated that later since the regions were hearing the same crap. I'll send you one of those (it includes language from the ORD guide on reviews to show why I put each review in a particular category). The Navy has used the same BS at HPNS, which R9 responded to after working with me.

Stuart Walker
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From: Stralka, Daniel <Stralka.Daniel@epa.gov>
Sent: Friday, May 08, 2020 2:59 PM
To: Walker, Stuart <Walker.Stuart@epa.gov>
Subject: RE: BPRG calculator

Thanks for the help Stuart. Since this was precipitated by the Navy using both RESRAD BUILD and BPRG, is there any thought of reconciling the two approaches? Not that RESRAD is the gold standard but the dose world is more familiar with it or at least defaults to it all the time. Neither model has really ever been validated, correct?

From: Walker, Stuart <Walker.Stuart@epa.gov>
Sent: Friday, May 8, 2020 10:57 AM
To: Stralka, Daniel <Stralka.Daniel@epa.gov>
Subject: RE: BPRG calculator

Do you want to call and walk through a run together? Might save time

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From: Stralka, Daniel <Stralka.Daniel@epa.gov>
Sent: Friday, May 08, 2020 12:16 PM
To: Walker, Stuart <Walker.Stuart@epa.gov>
Subject: RE: BPRG calculator

So when I do it, I get the input page highlighting the changes but no final calculations/concentrations. I do get them if I am using the default exposures.

From: Walker, Stuart <Walker.Stuart@epa.gov>
Sent: Friday, May 8, 2020 9:08 AM
To: Stralka, Daniel <Stralka.Daniel@epa.gov>
Subject: RE: BPRG calculator

Ok, good luck

Stuart Walker
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From: Stralka, Daniel <Stralka.Daniel@epa.gov>
Sent: Friday, May 08, 2020 12:08 PM
To: Walker, Stuart <Walker.Stuart@epa.gov>
Subject: RE: BPRG calculator

Go for lunch and I'll paly around. If I still have problems I'll call or message. Thanks
Dan

From: Walker, Stuart <Walker.Stuart@epa.gov>
Sent: Friday, May 8, 2020 9:04 AM

To: Stralka, Daniel <Stralka.Daniel@epa.gov>

Subject: RE: BPRG calculator

I just did it for dust, air, and 3-D with a few random changes from defaults and it worked for me. If you want to call me I'll hold off going downstairs for lunch, we can walk through a run together.

Stuart Walker

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From: Stralka, Daniel <Stralka.Daniel@epa.gov>

Sent: Friday, May 08, 2020 11:30 AM

To: Walker, Stuart <Walker.Stuart@epa.gov>

Subject: BPRG calculator

Good morning Stuart, I hope all is well with you. As you may recall, I am working with Wayne Praskins on the Navy's proposed exposure factor changes to the Building PRG calculator. As an exercise to see what effect their proposed changes would make, I tried to use the user-provided button and entered the proposed changes but then the output does not give the concentrations? Any suggestions?

Dan